

Listing of the Claims:

1. (Previously Presented) A method of producing a transgenic wheat plant comprising:

 providing an explant presenting a plurality of meristems;

 culturing said explant in a first multiple bud inducing media suitable for inducing production of a plurality of buds from at least one of said meristems;

 introducing exogenous DNA into at least one of said plurality of buds;

 removing said plurality of buds from said first media and transferring said plurality of buds to a second media suitable for induction of elongation of said buds into shoots;

 harvesting and transferring said shoots to a culture medium that promotes root development; and

 culturing said transferred shoots to produce plants.
2. (Currently Amended) The method of claim 1, wherein said multiple bud inducing media comprises a cytokinin and an auxin.
3. (Currently Amended) The method of claim 2, wherein said cytokinin is thidiazuron.
4. (Currently Amended) The method of claim 2, wherein the concentration of said cytokinin is between [[about]] 2.0mg/L and 7.5mg/L.
5. (Currently Amended) The method of claim 2, wherein said cytokinin is thidiazuron and said auxin is selected from the group consisting of 2,4-D and picloram.
6. (Currently Amended) The method of claim 5, wherein the concentration of thidiazuron is between [[about]] 2.0mg/L and 7.5mg/L and the concentration of auxin is between [[about]] 0.5mg/L and 2.0mg/L.
7. (Currently Amended) The method of claim 1, wherein said plurality of meristems contains the scutellar node.

8. (Currently Amended) The method of claim 1, wherein said explant is a wheat mesocotyl explant.
9. (Currently Amended) The method of claim 1, wherein said exogenous DNA comprises a nucleic acid encoding a protein capable of conferring resistance to a selection agent.
10. (Currently Amended) The method of claim 9, further comprising a step of selecting for plants containing the protein conferring resistance to a selection agent.
11. (Currently Amended) The method of claim 1, wherein said exogenous DNA is introduced via biolistic particle bombardment.
12. (Currently Amended) The method of claim 1, wherein said exogenous DNA is introduced via *Agrobacterium*-mediated transformation.
13. (Currently Amended) A method of producing a transgenic wheat plant comprising:
 - providing a wheat mesocotyl explant presenting a plurality of meristems;
 - culturing said wheat mesocotyl explant on a first media, comprising thidiazuron at a concentration of between [[about]] 2.0mg/L and 7.5mg/L, and 2,4-D at a concentration of [[about]] 0.5mg/L and 2.0mg/L, to induce the production of a plurality of buds from at least one of said plurality of meristems;
 - introducing exogenous DNA into at least one of the cells of said plurality of buds;
 - removing said plurality of buds from said first media and transferring said plurality of buds to a second media suitable for induction of elongation of said buds into shoots;
 - culturing said shoots to produce plants.
14. (Currently Amended) The method of claim 13, wherein said exogenous DNA is introduced via *Agrobacterium*-mediated transformation.

15. (Currently Amended) The method of claim 13, wherein said exogenous DNA is introduced via biolistic particle bombardment.
16. (Currently Amended) The method of claim 13, further comprising a step of selecting for plants containing the exogenous DNA.